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Communications and Information

***RADIO FREQUENCY (RF) SPECTRUM
MANAGEMENT***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 33-1, *Command, Control, Communications, and Computer (C4) Systems*; and Air Force Instruction (AFI) 33-118, *Radio Frequency (RF) Spectrum Management*. It establishes procedures for radio frequency spectrum management on and around Travis AFB. It provides general guidance for unit frequency focal points in submitting and establishing frequency requirements, citizen band radio stations, and spectrum interference reporting. It applies to all military and civilian personnel, including the 349th Air Mobility Wing (Assoc.) (AFRC), and tenant units who operate or maintain radio frequency emitting devices on or around Travis Air Force Base.

SUMMARY OF REVISIONS

This revision clarified paragraph 6.2.1, and deleted all references to telephone numbers.

1. GENERAL:

1.1. Radio frequency spectrum is a very limited resource requiring critical management attention. Radio transmissions on and around Travis AFB will be conducted only on authorized frequencies. Users of radio frequencies must maintain a valid authorization for all radio frequencies assigned or used in order to minimize interference and ensure continued authorization to operate.

2. RESPONSIBILITIES:

2.1. 60th Air Mobility Wing Commander (60 AMW/CC) is responsible for all electromagnetic radiation emanating from the installation and from those outlying activities hosted by the installation. 60th CS/CC appoints the Installation Spectrum Manager (60 CS/SCXF), on behalf of 60 AMW/CC, to manage the RF Spectrum Program.

2.2. Installation Radio Frequency Spectrum Manager (60 CS/SCXF):

2.2.1. Implements AFI 33-118, Radio Frequency Spectrum Management, as supplemented.

2.2.2. Implements AFI 10-707, *Spectrum Interference Resolution (SIR) Program*.

2.3. Using Activity:

2.3.1. Identifies a *unit point of contact* for all frequency management matters to the Installation RF Spectrum Manager (60 CS/SCXF).

3. UNIT POINT OF CONTACT:

3.1. Coordinates with the Installation RF Spectrum Manager on all frequency management matters.

3.2. Ensures current Air Force frequency management directives are available and followed.

3.3. Maintains an authorization document for each frequency used.

3.4. Ensures the operation of equipment radiating RF energy complies with authorized limitations and tolerances.

3.5. Acts promptly to resolve and report incidents of interference (IAW AFI 10-707, and paragraph 8 of this instruction). In addition, provides an information copy of all interference reports to the Installation Spectrum Manager.

3.6. Immediately informs the Installation Spectrum Manager of frequencies no longer required.

3.7. Requests the minimum number of frequencies necessary to accomplish the mission and uses minimum transmitter power and antenna gain or height.

3.8. Uses radiation-suppression devices (dummy loads) as much as possible when tuning, testing, or experimenting with radio devices.

3.9. Coordinates frequency actions in advance with the Installation RF Spectrum Manager, to include purchase of new equipment such as RF transmitters/receivers and associated equipment, antennas, or when changing locations of current equipment.

3.10. Ensures proper radio procedures are followed and all transmissions are for official government business.

4. PROCEDURES FOR SUBMITTING AND ESTABLISHING FREQUENCY REQUIREMENTS:

4.1. The user must initiate all required paperwork prior to requesting frequency assignments. New assignments require a lead-time of 120 days. Requirements without this lead-time must show strong justification for authorization.

4.2. The request must have:

4.2.1. A letter to the Installation Spectrum Manager that includes:

4.2.2. C4 Systems Requirements Document (CSRD) document number and validation (AF Form 3215).

4.2.3. Required operational date and justification if not submitted with proper lead-time.

4.2.4. The requested frequency, why it is required, who will use it, and how it will be used.

4.2.5. Type of equipment and antenna to be used, including military/civilian nomenclature, emission and frequency band the equipment operates.

4.2.6. Power, gain, and height of the antenna.

4.2.7. Location of transmitter and receiver (longitude and latitude in degrees-minutes-seconds).

4.2.8. Equipment not approved for government use will require a J/F-12 (Frequency Application Index) allocation number. The project officer and engineers of the equipment must submit DD Form 1494, *Application for Equipment Frequency Allocation*, to request a J/F-12 number from the Department of Defense. The Installation RF Spectrum Manager will provide assistance in filling out the appropriate paperwork.

5. FIVE YEAR REVIEWS, MODIFICATIONS, OR DELETIONS:

5.1. Five-year review actions are initiated by the Installation RF Spectrum Manager. The user is asked to review their parameters and reply by endorsement. If the frequency is no longer needed or the parameters have changed, the user must submit the appropriate documentation to the Installation RF Spectrum Manager for further action.

5.2. Any modification and/or deletion must be detailed in a letter to the Installation RF Spectrum Manager. Modifications require validation by CSRD if they exceed the table of allowance requirements or go beyond the parameters required to meet mission requirements. Detailed letters are required for modifications, using the new assignment format. There is no specific format for deletions.

6. TEMPORARY/EXERCISE FREQUENCY REQUEST:

6.1. The base-wide Trunking System will be utilized for land mobile radio (LMR) requests within Travis AFB. Units must notify the manager at least 60 days before arrival and programming will be accomplished at a rate of ten units per day.

6.2. Equipment Requirements: Narrowband (12.5 kHz) analog or digital APCO25, Trunking radios which operate in the 406-420 MHz band.

6.3. Non-trunking frequency requests require lead-times of 90 days for overseas requirements, 60 days for requirements in the Continental United States (CONUS), and 30 days for CONUS assignments that can be supported with AMC-controlled frequencies. These frequencies are limited to ultra-high (UHF)/very high (VHF) air-to-air, UHF/VHF air-to ground, Station Keeping Equipment, and high frequency (HF) voice and data.

6.4. Short-notice temporary/exercise frequencies in support of HQ AMC will be submitted to the Tanker Airlift Control Center (TACC).

6.5. Tasking to support exercises at other locations with Land Mobile Radio (LMR) equipment must be cleared by the host LMR/Trunking manager. Frequency approval is not necessary if the host base has the assigned frequency, and the primary user agrees to share the net. A frequency approval is required if the frequency is not assigned to the exercise location.

6.6. Include type, model, and power of the equipment to be used with these requests. (Example: Scope Shield Radios, model PRC-139, one-half to two watts).

7. CITIZEN BAND (CB) RADIO STATIONS:

7.1. Individuals are permitted to establish and operate CB radio equipment in dormitories and family housing units.

7.2. The following procedures and requirements must be complied with:

7.2.1. Operation of a CB must not interfere with Air Force communications systems.

7.2.2. Portable/mobile radio equipment will not be operated within close proximity to Air Force installed equipment such as aircraft control facilities, refueling or defueling sites, fuel storage areas, VHF/UHF transmitter/receiver sites, etc.

7.2.3. All forms of radio interference affecting government communications will be dealt with IAW SIR reporting procedures (paragraph 8).

7.2.4. Antennas will be installed IAW Base Civil Engineer (CE) regulations and submitted on an AF Form 332, BCE Work Request. The user is responsible for coordinating with the Installation RF Spectrum Manager and with CE on all aspects of the antenna installation. Under no circumstances will antenna installation be conducted until written permission from the Base Civil Engineer (BCE) is granted and is in the individual's possession.

8. SPECTRUM INTERFERENCE REPORTING:

8.1. When experiencing interference, the user must determine whether or not an interference report is required and if so, submit the initial report within 24 hours. Aircrews will submit reports according to established Command Post procedures. All other units will use the checklist in Attachment 2 to initiate interference reporting.

9. FORMS PRESCRIBED: AF Form 332, AF Form 3215, and DD Form 1494.

ARTHUR M. PACKARD, Col, USAF
Director Wing Staff

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

REFERENCES

AFPD 33-1, *Command, Control, Communications, and Computer (C4) Systems*

AFI 33-118, *Radio Frequency (RF) Spectrum Management*

AFI 10-707, *Spectrum Interference Resolution (SIR) Program*

Attachment 2**INTERFERENCE REPORTING CHECKLIST**

Before submission of an interference report, compile the following information, when possible:

1. Has any recent maintenance activity taken place to include movement of equipment, cables, or antennas?
2. Are proper operating procedures being used?
3. Are net users operating within the parameters of the frequency assignment for example: power, emission, and antenna gain?
4. Are cables properly connected to equipment and antennas?
5. Disconnect the antenna from the receiver; the interference signal level should drop drastically.
 - 5.1. If the interference does not drop, notify appropriate maintenance personnel to start maintenance action on the affected equipment.
 - 5.2. If the interference stops, you can assume it is being caused by an outside source.

Continue the checklist if the problem is determined to be an outside source.

Do not reveal, over the radio, the fact that you are receiving interference or that you are being interfered with.

6. Investigate to see if the proper frequency and antenna separation exists between collocated equipment.
7. Log recurring interference to include dates, times, duration of signal, and any other important events.
8. Attempt to identify the call sign, center frequency, and type of signal. For example: voice, data, International Morse Code, and/or signal characteristics should be noted.
9. Contact the Installation RF Spectrum Manager (60 CS/SCXF) and report your actions and intentions.
DO NOT DISCUSS CLASSIFIED ACTIONS OVER NONSECURE TELEPHONE SYSTEMS.
The Installation RF Spectrum Manager will work with you on determining if a report is necessary and assist you in submitting paperwork..

NOTE: After duty hours, contact the Installation RF Spectrum Manager through the 60 CS Communications Focal Point (60 CS/SCMQ).